

BUSINESS

BUDGETING

• TECHNICAL NOTES MAGAZINE •



APRIL, 1955

VOL. 3, NO. 5

IN THIS ISSUE:

- Capital Budgeting Page 3
By Gust F. Johnson
- Preparing, Presenting and Screening the
Capital Budget Projects Page 3
By Lloyd C. Volling
- Control of Capital Expenditures Page 4
By L. J. Moser
- Forecasting and Profit Planning Help
General Foods Introduce A New Product Page 5
By N. J. Curran
- Financial Analysis in Johns-Manville Page 7
By Stanley Green
- Basic Budget Philosophy Page 9
By Richard Austin
- The Post Completion Audit of Capital Budgets Page 10
By Wm. B. Jolly

BUSINESS BUDGETING

Technical Notes Magazine

April, 1955

Vol. 3, No. 5

Editor..... Glenn A. Blair
The Andrew Jergens Co.
2535 Spring Grove Ave.
Cincinnati 14, Ohio

Publications Director..... R. O. Hegness
U.S. Steel Co.
American Steel & Wire Div.
Cleveland 13, Ohio

The National Society for Business Budgeting Officers 1954-1955

President..... H. P. Kelley
American Viscose Corp
Philadelphia 3, Pa.
First Vice-President..... E. G. Mauck
Eli Lilly and Co.
Indianapolis 6, Ind.
Vice-President..... A. E. Barry
Manning, Maxwell & Moore
Stratford, Conn.
Vice-President..... W. D. McGuire
Kimberly-Clark Corp.
Neenah, Wisc.
Secretary..... J. M. Shackelford
Johns-Manville Corp.
New York 16, N.Y.
Treasurer..... A. H. Weiss
Harnischfeger Corp.
Milwaukee 14, Wisc.

DIRECTORS

C.L. Linsberger
Chicago Apparatus Co.
Chicago 22, Ill.

Ross D. Stevens
Solar Aircraft Co.
San Diego 12, Calif.

W. M. Campbell
Atlantic Refining Co.
Dallas, Texas

R. O. Hegness
U. S. Steel Co.
Cleveland 13, Ohio

E. G. McFadyen
U. S. Rubber Co.
New York 20, N.Y.

J. A. Strickland
International Harvester Co.
Chicago 1, Ill.

E. A. Votter
International Harvester Co.
Louisville, Ky.

William F. Lowe
Bridgeport 2, Conn.

Donald Bacon
R.R. Donnelley
Chicago, Ill.

Charles Reynolds
Trailmobile, Inc.
Cincinnati, Ohio

Henry M. Leigh
Clevite Corporation
Cleveland 10, Ohio

Charles F. Harrison
Pitman-Moore Co.
Indianapolis, Ind.

A. E. Hardgrove
J. E. Seagram & Sons
Louisville, Ky.

Joseph Grimm, Jr.
Solar Corp.
Milwaukee 4, Wisc.

H. W. Henley
Standard Oil Co. (N.J.)
New York 20, N.Y.

W. E. Holloway, Jr.
Curtis Publishing Co.
Philadelphia 5, Pa.

George J. Frey
Peat, Marwick, Mitchell & Co.
Minneapolis, Minn.

ABOUT OUR AUTHORS

Budgeting and budgetary control of capital expenditures is one of the basic foundations of budgeting. It is one of the first steps in budgeting which most companies inaugurate. In spite of fairly well established and proven principles many companies fail to take advantage of the experience of others and the budgeting program suffers. It is therefore stimulating to reassess the program in each of our companies in light of the practical experience of others. The members of the Twin Cities Chapter did this in their February meeting. Four members served as panel members to present four different phases of the capital budget. Their comments were based largely upon their own practical experiences. Summaries of their presentations have been prepared and are published in this month's issue of Business Budgeting. The four topics with a short biographical sketch of each panel member is as follows:

"Capital Budgets (General Discussion)" — Gust F. Johnson, Operations Controller, Northern States Power Company, Minneapolis, Minnesota. Mr. Johnson is a graduate of the University of Minnesota electrical engineering. He was employed by Northern States for 25 years as Rate Engineer and for the past 2-1/2 years as Operations Controller. His present duties include preparation of the annual operating budget, analyses of operating results, and long-range forecasting.

"Capital Budget (Preparation, evaluation of projects, and approval)" Lloyd C. Volling — Treasurer and Assistant Secretary, Green Giant Company, Le Sueur, Minnesota. Mr. Volling graduated from Gustavus Adolphus College, St. Peter, Minnesota (1931). He has served in a number of different capacities in the Green Giant Company. For a number of years he was directly responsible for the preparation and development of all budgets in the Green Giant Company.

"Capital Budget (Control of expenditures)" — L. J. Moser, Budget Manager Brown & Bigelow, St. Paul, Minnesota. Mr. Moser is a graduate of Josephinum College, Columbus, Ohio. He has served as Budget Manager, Montgomery Ward mail order house at St. Paul, Minnesota from 1942 to 1947. Since that time he has served as Budget Manager, Brown & Bigelow. He is a former president of the Twin Cities Chapter NSBB.

"Capital Budgets (Post completion audit)" — Wm. B. Jolly, Secretary-Treasurer, Perfection Manufacturing Corporation, Minneapolis, Minnesota. Mr. Jolly is a graduate of the University of Iowa. He is certified Public Accountant (Minn.-1950). He has served as staff accountant for two public accounting firms, Carl E. Hallin, and Ernst & Ernst, both in Minneapolis. After that he served as assistant controller for the Donaldson Company, St. Paul, Minnesota.

The article "Financial Analysis in Johns-Manville," by Stanley Green, is from a paper presented by Mr. Green at the Third Annual meeting of the Operations Research Society of America, in Washington, D. C. in November, 1954.

Richard Austin, Author of "Basic Budget Philosophy", grew up in Albany, New York where his father was a public accountant, one uncle was chief tax adjuster for the State, and another uncle was deputy collector of internal revenue. A career in accounting came naturally. He graduated from Duke University in 1937 and joined Westinghouse that same year. In 1939, after a dizzy number of assignments, he was transferred to the Lighting Division in Cleveland. Here he held various accounting jobs prior to being named to his

Cont'd pg. 12

CAPITAL BUDGETING

By Gust F. Johnson

Operations Controller, Northern States Power Company, Minneapolis, Minnesota

Here are four short but to-the-point discussions on various phases of Capital Budgeting. No new fangled theories, but plenty of good practical advice, based upon solid experience. If you're among the diminishing group of budget men still evading capital budgeting, here's further encouragement. Come on in, the water's fine!

The purpose of this panel discussion of Capital Budgeting is to present some of the primary considerations involved in the budgeting of capital expenditures and to give some illustrations of capital budgeting problems and procedures in certain industries.

The capital budget should be developed to answer three questions:

1. For what will the money be spent?
2. How much money will be spent?
3. When will the money be spent?

To answer the first question, will require some thinking ahead and long-range planning to define the objectives of the company in order that the capital expenditures will contribute toward reaching the objectives. It also requires consideration of the economic conditions in the immediate future. In considering the items to be included in the budget the firm must decide whether it will expand to seek new markets, introduce new products, or improve existing facilities. It must also consider whether it may be desirable to concentrate on developing within certain limits the particular field or business that it occupies. These are choices that are available from which a selection must be made. A merchandising firm with numerous stores has to decide whether it shall add one or more units to an already existing chain. The manufacturing plant that develops a new product in the research laboratory must decide whether it is ready for market and plan the construction of the required plant and equipment to produce it.

On the other hand, there are some lines of business that must continually be making capital expenditures to meet the added requirements of their customers. Public utilities - electric, gas and telephone - are conspicuous by the steady rate at which they continue to add to their facilities to supply the ever increasing demands for service.

In the electric utility industry with which I am most familiar, long-range planning is a necessity since it takes nearly three years of design, construction, and installation to add a large generating unit to the system. With the very substantial amounts of money involved in such projects, capital budgeting is a very important aspect of utility operation.

The replacement of worn out equipment or the substitution of a new and more efficient unit for an existing one is also part of the capital budget that must be given consideration in determining what items will be included in the budget.

The determination of the specific projects to be included in the budget follows one of two methods. The most frequently used procedure is the one in which top management reviews, analyzes and screen capital needs as presented by all departments. This has the advantage of originating projects with those who are most interested and closest to the additions or improvements proposed. It forces personnel at various levels to look ahead and suggest to management those improvements that will be most beneficial. It gives management the opportunity to review projects in terms of relative needs and values, and select those that offer greatest opportunities for

the firm's well being.

The second method of determining the projects to be included in the budget assigns a specific sum to be spent which is then allocated throughout the organization to be used in the best manner as determined by the local management. This method is usually found in the smaller companies where top management is familiar with the capital needs or in companies where the major capital expenditures are for replacements.

The determination of specific projects to be included in the budget together with such blanket or routine capital expenditures as may be necessary answers not only the first question but also the second since in any consideration of a project, its cost element will also be included. How much will be spent on the capital budget is determined by the company's needs as well as the available funds. In many cases the funds are internally generated from depreciation accruals retained and earnings, but for the expanding plant outside capital must be secured and here the need of a capital budget is obvious.

The budget itself is usually made up of two parts. The one by projects which show the items to be included in the budget and their cost. The second part of the budget is equally important and this develops the time and schedule of expenditures. This part of the budget answers the third question "When will the money be spent?" It provides the basis for the cash flow budget and determines the timing of capital needs.

This summary of general considerations relative to the capital budget will be followed by discussions illustrating specific plans and procedures for handling the capital budget.

PREPARING, PRESENTING AND SCREENING THE CAPITAL BUDGET PROJECTS

By Lloyd C. Volling

Treasurer and Assistant Secretary,
Green Giant Company, Le Sueur, Minnesota

The procedures and methods for preparing, presenting and screening of capital expenditures requests, which I am going to describe, are those being used by the Green Giant Company. What we do is not original or different but, by improvements through the process of trial and error, represents the best way we have found to develop a Capital Budget for our Company.

Our business consists of the growing, processing and canning of peas, corn and asparagus. We have twenty-four plants which are in production during a period of 30 to 60 days in each year. Because of the perishable nature of the raw produce and the short operating season, it is necessary that each plant operate at maximum capacity with a minimum loss of production due to equipment failure.

(Please turn page)

The manufacturing and warehousing operations performed by the twenty-four plants are organized on a Division basis. There are three Divisions, two of which operate six plants each and the other operates twelve plants. The General Offices of the Company, consisting of Sales and Staff Departments such as Research, Engineering, Accounting and Personnel, are located at Le Sueur, Minnesota.

Our Capital Budget covers a period of one year - November 1 through October 31. The Company has a fiscal accounting year ending March 31. The Capital Budget year coincides with the plant operations and the preliminary work on the budget begins as soon as the canning operations are completed.

The Plant Manager at each plant is responsible for preparing the capital expenditure requests for his plant. The projects are presented on a form titled "CAPITAL BUDGET REQUEST" which provides space for detailing the materials required and estimating total labor hours. Space is also provided for explaining, in detail, the reasons for making the request. Each request must also be classified under one of the following categories:

- 1 - Equipment to replace obsolete or worn-out equipment
- 2 - Opportunist buying of land and equipment
- 3 - Buildings and equipment necessary to increase production
- 4 - Equipment to improve quality of product
- 5 - Labor and material-saving equipment
- 6 - Safety and insurance recommendations

As soon as all of the Budget requests are completed, they are reviewed by the Plant Management Committee, of which the Plant Manager is Chairman and its members are his immediate subordinates. The plants are encouraged to submit any request which they regard as necessary for the operation of their plant or which returns an acceptable margin of profit on the investment. Those projects which are approved by the Plant Management Committee are then forwarded to the Plant's Division Office.

The Division Purchasing, Production and Engineering Departments review the requests, recheck the estimated labor and material costs and add their recommendations, either pro or con. The Accounting Department also screens the requests to insure that only valid capital items are included.

Special projects such as the major remodeling of a plant or adding production facilities are generally initiated by Division Management and the Engineering Department, and are included in the Budget at this point.

A numerical classification schedule which segregates, by classes and sub-classes, the various types of assets employed in our business is used to identify each capital request. This number identifies the project until it is completed and finally added to the asset and depreciation ledgers.

All requests for machines, which are depreciated over a period of six years or less, are grouped in a separate category which we call Short-life Equipment. The funds available for replacement of worn-out equipment are controlled by the annual depreciation available. To avoid the re-investment of depreciation from short-term assets to acquire long-life assets or vice versa, we try to maintain a revolving fund control on short-life equipment.

The budget requests are now re-capped by asset classes and the total dollar value of the requests is obtained. The Division Management Committee then

screens the requests and forwards to the Company's General Office the Capital Budget for their Division.

The three Divisional Budgets are now reviewed by the General Company staff departments including Purchasing, Engineering and Accounting. The requests of the General Company Departments are now added along with any Special Projects for the Divisions which might be recommendations from Management or the Engineering and Production Departments.

The requests for capital funds have now been accumulated and re-capped and are ready to be considered by the Management Committee. A report on Working Capital and a Schedule of Depreciation are presented as background information for the screening process.

The screening process does not follow a pre-determined evaluating procedure but rather each project is reviewed and analyses are developed to whatever degree necessary to provide the essential facts. Labor savings, quality improvements, additional capacity and contributions to profit are points on which requests to purchase new equipment are evaluated. Replacements of worn-out equipment may be required to prove a reduction of maintenance costs, improve quality and show a satisfactory return on investment. Requests for labor-saving equipment must show that the cost of the new equipment will be paid back in two years. Return on investment and industry position are additional factors which are used to sift out the best projects on which to spend the available capital funds.

The requests usually exceed the available funds, so the approved projects are returned to the Divisions for their priority ratings. The lowest ratings are then eliminated until the total equals the available funds, which have been appropriated for capital expenditures.

An amount equal to approximately 5% of each Division's Capital Budget is left in an Unassigned fund to be used for small requests or unforeseen replacements during the year. These unassigned funds can be drawn on only by approval of the Division Manager.

The Capital Budget is now ready to be presented to the Board of Directors for their approval. No further authorization is required for approved expenditures during the budget year. Cancellations or re-assignments can be made by completing a form "BUDGET ADDITIONS or RE-ASSIGNMENT" and obtaining the approval of the President or Vice President in charge of Production. Funds not spent at the end of the budget year are lost and must be re-submitted with the new budget requests.

CONTROL OF CAPITAL EXPENDITURES

By L. J. Moser

Budget Manager, Brown & Bigelow, St. Paul, Minnesota

Plant and equipment budgets are usually regarded as fixed rather than variable budgets. They are readily controlled if management wishes to install the necessary procedure. Actually they lend themselves to stricter enforcement than ordinary expense budgets.

Most companies lay down a general policy that inclusion of equipment in the budget will not in itself be considered as authority to purchase. This provides for a more careful review of all the facts than may have been possible when the budget was established and permits management to control timing of expenditures.

FORECASTING AND PROFIT PLANNING HELP GENERAL FOODS INTRODUCE A NEW PRODUCT

By N. J. Curran

Director, Budgets and Analysis, General Foods Corporation, White Plains, N.Y.

Nothing succeeds like success, and nothing proves a point better than a successful example. Taken from a paper by Mr. Curran on the subject of "Co-ordinating Budgets With Forecasting", here is the story of how the great General Foods Corporation uses modern forecasting and profit-planning techniques in introducing a new product, with outstanding success.

This article will describe how a major post-war General Foods product was introduced and made welcome in the American home and the role forecasting and profit planning played.

The example is Instant Maxwell House which has been described as "the most marvelous merchandising success ever seen in the food business".

Instant, or soluble, coffee is a classic example of a convenience product. It's a powder obtained by brewing coffee in the factory and then extracting the water from it. It offers many advantages in that you can prepare one cup as easily as ten cups, it keeps fresh longer than ground coffee, it is quick - you can make a cup as quickly as water can be made to boil.

These advantages would justify a premium price over regular coffee. Instant coffee has the added advantage of economy - it is cheaper than regular coffee on a cup for cup basis and it is less wasteful.

The first instants contained carbohydrate additives which gave the drink a slight off-coffee flavor. Now the instants are pure coffee and they make a good cup of coffee.

Instant Coffee has an interesting history. Almost a hundred years ago soldiers of our Civil War experimented with tablets of coffee powder which were dropped into hot water like Alka-Seltzer pills. The stuff was pretty bad.

There may be no connection but the Civil War was by far the most devastating war we have experienced - for every single battle death there were two deaths due to other causes. It may be merely a coincidence, but it is surprising that instant coffees were little heard of for half a century after.

Then in 1910 a man named George Washington, who died a few months ago, marketed a coffee powder in individual cup containers. The product was successful but because of high price it was a luxury or specialty product.

It was not until just before the war that the outline of a mass market for instant coffee became apparent. When the war came, production for the armed services was stimulated and civilian supplies were curtailed. The mass sampling of thousands of servicemen and civilians because regular coffee was not available undoubtedly helped create a peacetime market for instant coffees.

General Foods, as a major principal in the coffee business, realized that it must keep up with developments in the instant field. We produced instant for the government during the war and in 1946 our product appeared on grocery shelves.

Our first marketing experience was like some of our competitors - we were getting millions of people to buy our product once or twice but repeat demand was weak. We knew the answer was in product acceptability and directed our research toward improvement.

Research paid off in 1949 when we found ourselves with a new process which gave us a 100% pure coffee. We believed it was better than anything else on the

market and had great promotional possibilities.

The rest of this article will describe what we did with this advantage and the part forecasting and profit planning played.

We first, made a long range forecast and to do so we made a careful appraisal of our progress to date and took a good look at our then current situation.

You might wonder why we looked back to the past when we wanted to move forward?

My answer is that Business Forecasting does not operate with formulas which are mathematical and infallible and for that reason it must rely largely on what has happened before.

While history does not exactly repeat itself it is nevertheless true that like causes tend to have like effects.

Wise marketing and management practice therefore normally includes a continuing effort to build a comprehensive "book of experience" so to speak.

So we examined the sales history of our first instant coffee. We wanted to find out where it had sold best, through what type of outlet - chain or independent, the most popular sizes and containers.

We found that our sales had not been growing fast even though most of the twenty odd manufacturers who had entered the business since the war had dropped out. By 1948 four companies controlled 90% of the market and Instant Maxwell House was a poor third in the race.

Continuing our examination we found that our distribution was national but retailer and wholesaler stocks were low - while our competitors seemingly had more abundant supplies.

Then we looked at our past marketing activity. We studied the effect of couponing, trade dealing and media advertising on volume, on profits and on our competitors.

We found that our Marketing had been unable to capitalize on any outstanding quality or packaging advantage. Sales records indicated no outstanding consumer preference for Instant Maxwell House.

Having looked at what had happened it was necessary to forecast the future of Instant Coffee. This is the point where we had to assess the limits of the market and our ability to penetrate that market.

The big questions were:

How big was the instant coffee market?

How fast was the market growing?

How much would it grow?

We found that there was a large existing market for instant coffee and ample evidence that there was room for great expansion.

We found that no company had yet produced an instant coffee which matched the taste of regular brewed coffee. However, we believed that our new process gave our instant a superiority over all our competitors.

We next projected the consumption of coffee for a period of years taking into account population, income and coffee consumption trends.

Then we had to forecast how much of this coffee would be sold in instant form---and where it would be sold.

Having made the forecast, or assumption, of the size of the instant market and its location we proceeded to make a long term profit plan.

The first task and the most difficult was to set volume objectives for our new Instant Coffee for a period of years.

This first basic step in profit planning -- setting volumes -- is much like the first instruction in a famous English recipe for rabbit pot pie;

"First catch a rabbit".

Overcome that hurdle and the rest is easy.

We set volumes after checking these questions or determining factors.

Was our product as good as we thought it was?

Would the housewife share our enthusiasm.

To find out we made many consumer surveys, one of which I will describe.

An independent testing organization went into 3,500 homes in Washington, D.C. with a coffee pot and a pound of Regular Maxwell House Coffee. The tester said he wanted to compare the brand of coffee used by the housewife and brewed in her own way with Regular Maxwell House brewed his way. So the housewife and the tester each brewed a pot of coffee. Then the housewife was asked to leave the room but her husband or another member of the family was asked to stay.

When the good woman left, the tester poured the regular Maxwell House Coffee he had brewed down the sink and quickly mixed an equal quantity of Instant Maxwell House.

The husband then called his wife back into the kitchen and she was asked to taste the two coffees - her own favorite and Instant Maxwell House. By a two to one vote the housewife preferred our Instant to her regular!

It was a remarkable demonstration, and it convinced us we really had something!

With our new product we could now advertise 100% pure coffee. How effective would this claim be?

Our product was less bulky than the old one. Should we pack in 2 oz., 4 oz., or 6 oz. sizes. We decided on two and six ounces.

Should we pack in glass jars or in tin cans. We decided the glass jar was a better selling package.

Was the name Maxwell House which was associated with regular coffee and with our old, relatively unsuccessful "filled" instant an asset or a liability for our new product? We decided to retain the name, but to use a distinctive re-designed label for the new instant.

After considering all these questions, we set volume goals for each of our sales regions.

Cost of production at varying volume levels were projected using cost accounting and engineering skills.

The profit plan next had to set forth the marketing strategy which would be used to introduce the new product. This involved many difficult decisions.

How could we exhaust all of the old label stock and introduce the new?

Should we strive for immediate national distribution or should we introduce the new product region by region?

What media should be used -- TV

Newspapers
Magazines
Billboards

or what combination?

What deals or incentives should we use to get retailers to stock and consumers to buy the new Instant Maxwell House?

To get answers, we set up a test market. In three cities we introduced Instant Maxwell House using one marketing approach and in three similar cities we used a different approach.

Each group of cities showed surprisingly uniform results.

In both cases, consumers bought our product and remained loyal to it after they used it.

These test cities were in the east where instant coffee was already well accepted. To check the marketing plan in an area where instant coffee was not used extensively we tried the second Marketing approach in Kansas City. This approach was more successful than the first, so we planned accordingly.

Our volume projection was made by regions as I told you. We next made a study to determine when we would need new plant capacity and, considering freight rates, regional markets and other factors, where new plants should be built.

As a result, plans were made to expand in New Jersey and to build in Florida, California, and Texas.

This long range planning which I have described was done under the supervision of the General Manager of Maxwell House division and with the knowledge of the Operating Vice President concerned. The work was done by the division which had profit responsibility.

After the plan was complete and the projected profits were carefully examined, it was approved by the General Manager and by the Operating Vice President who, in turn, passed it on to Corporate Management for approval.

Approval was necessary because the plan, to be executed, would require millions of dollars for brick, mortar and machinery and more millions for accounts receivable and inventories.

Only when we had settled by means of a long range forecast where we were going and how we were going to get there could we make more specific profit plans for the immediate future. When the long term course for Instant Maxwell House was set and approved we could make short term profit Plans as we would for any established product.

You might wonder how we made out with Instant Maxwell House. With that product our planning and forecasting worked out beautifully. The forecasts were accurate and the results were gratifying.

Of course we do not pick a winner every time.

I have described Forecasting and Long Range Profit Planning for a new product. There is little more I can tell you about short term Profit Planning and Forecasting because the method is similar.

Throughout the corporation we make profit plans on a fiscal year basis. The Year's plan is composed of four quarterly plans.

A final Profit Plan for each quarter is prepared just

FINANCIAL ANALYSIS IN JOHNS-MANVILLE

By Stanley Green

Analyst, Johns-Manville Corporation, New York, N.Y.

"Operations Analysis" is a new term in modern business language. If you haven't heard it much, you will. And if you don't know much about it, here's a chance to learn a little. It's as modern as tomorrow, and not as mysterious as you might think.

Those of us doing operations analysis for the armed services in World War II had, in our work, one purpose: to win the war. To be sure, if there were more than one way of gaining some military objective, we chose the way that required the least resources. But we chose it largely because it would relieve resources for other military objectives, and in this way make us stronger for waging war.

Analysis of business operations requires, obviously, another viewpoint. Some of you may question what I shall say: that is, that the sole purpose of a business enterprise is to earn money for its owners. Of course, to be successful, a business must perform services: it must fulfill obligations to the public, to its customers, employees and suppliers. But these are means of achieving its purpose. Its purpose is to make money.

Last year at a seminar on management planning and control, attended by people from a number of companies, the chairman, a professor of business administration, said that a business had two primary purposes: to make money and to please customers. He said that if you didn't please customers, you wouldn't make money. Let's see whether pleasing customers is a primary purpose. Suppose a company is considering which of its products to stock in dispersed warehouses to give customers better service. Now, if a primary purpose is to please customers, the answer would be clear: stock them all, for it would give customers the best service. But if the sole purpose is to make money, you must consider, for each product: the probable gain in sales and earnings, and the added expenditures, that would result from warehousing. You might decide, then, that products that have small bulk in relation to value, and that customers need on short notice, and that have a good sales turnover, were worth warehousing, and that other products were not. I asked the professor how he would decide and he answered, on the basis of profitability. No, the sole purpose of a business enterprise is to earn money.

The most important event in industrial operations that determines whether that purpose will be achieved is decision. These decisions may be large: whether to buy another enterprise, or to construct an additional plant, or to launch a new major product. Or, they may be small: whether to buy a standard or an electric typewriter; or, simply, how should I spend my time today. How these questions are decided affect earnings in large or small degree. And decisions are made by everyone, every day.

This being so, the manner of making decisions is critical to the success of an enterprise. And the way that commends itself to intelligent men is to apply reason to facts. This application of reason to facts we, in Johns-Manville, call financial analysis.

The expression "operations research" and "operations analysis" are often applied, I believe, to the study of rather complex problems dealing with two or more variables and requiring often more than high school mathematics. This kind of problem comes also within the purview of financial analysis. But financial analysis in

Johns-Manville is, as I have indicated, more inclusive: it deals also with simple matters, matters that require only simple arithmetic. It deals, or should deal, with all matters that affect earnings.

By applying reason to facts—that is, facts that are available at a cost that is not excessive—financial analysis seeks to reduce the need for using judgment alone in reaching decisions. To the extent that the members of an enterprise base their decisions on facts, to that extent will the enterprise prosper the more.

And while it is desirable for everyone in an enterprise to practice this, there is, at the same time, a need for a limited degree of specialization. The first demand for specialization comes from the fact that the more important decisions, such as whether to market a new product, require contributions of facts from a variety of sources: from the research man, from the engineer, the production man, the merchandiser, the financial man. No one of these can contribute all the facts that such an analysis demands. To no one of these, therefore, does it fall naturally to finish the job. In the past, the job has usually been completed by general management. Because analysis is so close to the basic duty of making decisions, it is one of the last things that management delegates.

However, industry grows more complex all the time and management's job grows more burdensome. More and more, management begins to feel the need of help in laying the basis for its decisions. Eventually management sees the value of having people spend their whole time on this work.

With specialization comes another and indirect benefit. When people specialize in a function there is a natural growth in their competence. Their methods improve and broaden. This reacts upon others in the enterprise, increasing their knowledge of the methods of analysis and stimulating them in its practice. This alone should be sufficient to justify some specialization.

Specialization was started in Johns-Manville some 10 years ago; it was sponsored and nurtured by our present Vice-President for Finance, Mr. Alvin Brown.

In Johns-Manville we have some 20,000 employees. We have roughly 40 people, of various degrees of experience and competence, who spend all of their time on financial analysis, and almost that number who spend part of their time on it. We have found that the best educational background for this work is courses in business administration and in industrial engineering.

Because of the broad scope of financial analysis in Johns-Manville, I have felt that I would be of more use to you, here, if I suggest in general terms what we do, rather than describe in detail one or more complex problems.

Basically, the viewpoint of financial analysis is simple. An industrial enterprise spends money in order to get back more than it spends. And it is not merely enough to earn. An enterprise ought to earn all it can. This prompts the question: Is income sufficient? Is it,

in other words, all that effective operation should procure? And need we spend as much as we do to get that income?

The answers to these questions depend on comparing actual income and actual expenditures with standards. There are few decisions that can be made properly without invoking some standard. For these answers, the standards must be sought in other operations under reasonably similar conditions. The other operation may be a similar process at another plant, or a preceding period or different shift at the same plant. Or the standard may be constructed from effective performance of the elements of the operation at different times and places. This sort of standard adopts the premise that, other things being equal, what has been done elsewhere or earlier can be done here and now.

If income and expenditures both flowed smoothly in time, occurred, that is, at a constant rate, they could be offset against each other, and calculations of earnings would be simple.

It is usually sufficiently accurate to consider earnings as being regular, even though they may vary seasonally and cyclically, and have a long-term growth trend. It is generally enough to forecast average annual earnings over some reasonably ample future period.

Most expenditures also occur regularly, but there are many that do not. Some expenditures are for plants and machinery that need be renewed only at intervals of years. Expenditures for land and working capital, and for initial product development, may provide income for a long period ahead, but they need no further expenditure. We cannot subtract this kind of expenditure from income to get a net amount of earnings. We can only deduct from annual earnings the amount of money needed to renew facilities when renewal is required. We have to find another method for comparing; the problem is to allow for the disparity in time of expenditure.

One way is to relate net annual earnings to the long-time expenditures. This is called the rate of earnings. Another way is by using annuity tables, to translate the long-time expenditures into equal annual amounts, so that they may be compared directly with the annual net earnings.

In either case a standard is needed to make decisions. The standard that financial analysis employs is a demanded rate of earnings. If the computed rate of earnings for an expenditure is more than the demanded rate, the expenditure is desirable. If less, it is not.

The rate of earnings demanded by Johns-Manville is the average rate it has experienced during 15 or 20 years in the past.

Thus, the method of financial analysis may briefly be said to be to get the facts of income and expenditure, to give them a rational relation, and to compare them with standards.

Some problems are given the analyst by operating people. Decisions are frequently required, for example, on proposed expenditures for new facilities, facilities that will either expand sales or reduce costs.

But the highest form of analysis is to uncover problems that have not been recognized. A problem, once identified, is already half solved. But problems that are not recognized may cause serious damage.

In seeking problems, the raw material of the analyst is financial statements: the balance sheet, the income statement, and the many more-detailed statements that relate to smaller parts of the enterprise.

An objective of financial analysis would be to see that working capital shown on the balance sheet, or investment statement as it is sometimes called, is not more than it need be.

Let us consider one element of working capital: finished goods inventories at plants. Not only do they represent expenditures for products for which no income is received, but they are costly in other ways. They require storage space, insurance, and taxes. And sometimes they become obsolete, or are damaged. Of course, some inventories must be maintained because of uncertainties of supply, transportation, and of forecasting one's own sales. But also there are reasons why earnings would be enhanced by storing finished goods.

Consider the nature of demand during a year. Among the products Johns-Manville sells are a good many building material products. As you know, more building is done in summer than in winter, and that is when our building material sales are at a peak. Now, to meet this peak demand we could provide additional production equipment, and we could hire crews to operate it. In the winter, the equipment would stand idle. Or, on the other hand, we could produce at an even rate throughout the year, storing in the winter months products that would be sold during the summer. The latter alternative would take more inventories and storage space, but less production facilities; and it would avoid the need to hire new crews, which generally produce at a higher cost than experienced crews. Perhaps the most profitable course might lie in between these extremes. But by adding to inventory we can reduce our need for production equipment and produce at a lower cost.

Again, consider production runs. On many production facilities, more than one product is run, even if there are changes only in size, shape, or color. To make a change-over takes time, and that costs money. This cost would be large per unit of product if the production runs were very short, say, no more than a day's sales. If, however, the change-over cost were spread over, say, a month's sales, the cost per unit might be small. Thus, inventories help to reduce change-over cost per unit of product.

Financial analysis must take into account such factors as minimum inventory needs, or the safety factor, as it is sometimes called, seasonal demand patterns, and length of production runs, and come to a rational conclusion on what the optimum inventory of finished goods should be.

Now let us look a bit at another major item on our balance sheet: plant and other production facilities.

A good field of analytical investigation is the capacities of our facilities: are they sufficient to accommodate likely future demand? Effects of long-term economic growth and of business cycles upon our business must be appraised so that our facility needs may be anticipated, and sales not be lost due to inability to supply customers. On the other hand, sales of some products may be contracting, our capacity may be excessive, and the time may have arrived when some of the machines should be salvaged, and the floor space, thus released, used for productive purposes.

Also, there is the question of size of plant: is it better to make a product in one large plant or in two or more smaller, geographically-separated plants? Up to a point in size, the larger plant will usually have lower costs per unit of product because the plant overhead costs are distributed over a larger volume of production. While multiple smaller plants usually have less freight cost, better service to customers, and less risk of sus-

BASIC BUDGET PHILOSOPHY

By Richard Austin

Assistant Division Manager, Westinghouse Lighting Division, Cleveland, Ohio

To make any budget program work, you must know what you expect of it. What is more important, you must let management know what they can expect; to avoid disappointments, why not write out YOUR "basic budget philosophy" as a preface to your own budget program?

In recommending a plan for budgetary control to your management, your report should enable that management to do two things; (1), to understand the reasons for recommending the procedures and techniques included in the report, and (2), to evaluate these recommendations in the light of the basic policies involved and to reject those which do not appear to contribute to the basic objective.

In my opinion "Budgeting" is an Operating Management process and not a staff function. Under this concept the budget is developed by operating managers to reflect the policies which they themselves have developed and approved. An analysis of performance against the budget is a tool for management to use in checking progress toward agreed upon objectives. The function of the staff in this process is to provide the necessary procedures and techniques and to coordinate the process whereby budgets are developed, reviewed and approved.

As a management function, responsibility for budgeting should be delegated as far down into the management ranks as possible. This has the double advantage of reducing the size of the budget unit to manageable proportions and of matching responsibility for job results with the cost of attaining results.

Budgeting as a management process is divided into two distinct phases, planning and control. The planning phase embraces the initial development of cost requirements for planned functions, projects and programs; integration of these plans into a plant or corporate profit objective; and review and revision of these plans in the light of the profit yielded. The second phase - control - embraces the day-to-day planning of operations to meet the budgets established and the follow-up action necessary to correct deviations from plan.

Of these two phases, the planning phase is more important. The following quotation is attributed to Nicholas Dreystadt, formerly head of the Cadillac Motor Company. "Any fool can learn to stay within his budget. But I have seen only a handful of managers in my life who can draw up a budget that is worth staying within."

One of the prime objectives of a new budgetary program is to focus the attention of operating management upon the planning phase, to the end that subsequent control analysis will be in terms of plans and budgets which the management itself has developed and approved.

On the cost side of the planning process it seems appropriate to divide costs into three major categories, each requiring different planning and control techniques. The first of these categories is "committed" costs. These include the costs which are inherent in the facilities which have been established, such as depreciation, insurance, property taxes, interest on bonded debt, etc.

The second category includes "operating" costs. These are costs which must be incurred in order to produce the product, including direct labor and materials, direct factory service functions such as inspection, store keeping, production follow, etc. and, in

the office area, cost of processing paper work for production planning and control, shipping, invoicing, payroll, etc.

The third category of costs includes what might be termed "policy" or "managed" costs. These costs include expenditures, over and above straight operating costs, which are subject to increase or decrease by change in management policy. Included are expenditures for product development, advertising, new marketing programs, cost improvement programs, etc.

Each of these three categories requires a different approach to the planning and control problem. In the case of "committed" costs, planning and control can be exercised only on a relatively long term basis.

Planning and control of "operating" costs should be directed toward minimizing these costs by tight controls and constantly reducing them through methods improvement and work simplification. Minimizing costs requires the establishment of tight standards of performance and planning operations so as to make attainment of these standards practical. To this end a budget program calls for the application of industrial engineering techniques, both in the shop and in the office, to the determination of usage standards for manpower and materials based on efficient utilization of these resources. The techniques involved include work load analysis, work distribution analysis, work measurement and techniques for advanced planning based on forecasted work load.

It is noteworthy in connection with the planning and control of operating costs that a visitor from Germany remarked recently that the superior productivity of American industries is due not so much to better facilities but to better planning for the use of such facilities. Through such planning, facilities, including manpower and materials, are used to best advantage and minimum of waste.

The planning and control of "policy", or "managed" costs is the most difficult of the three areas. The planning of such costs involves the exercise of judgment on the part of all levels of management in which the cost of the program must be balanced against the potential return. For this there is no pat formula. In many cases the long range benefit of expenditures of this type must be balanced against the sacrifice of short term profits which are involved.

Because of the nature of the costs involved it is in this area that the planning phase of budgeting requires the greatest management attention. Nothing can be done about committed costs over the short range. Operating costs may be determined by the application of soundly developed standards or formulas to the anticipated level of productive activity. Determination of the proper level for policy or managed costs can be determined only by the exercise of sound business judgment. In this connection a quotation from Peter Drucker's recent book *THE PRACTICE OF MANAGEMENT* seems to be in order. "The budget is the document in which balance decisions find final expression. But the decisions themselves require judgment. And the judgment will be sound only if it is based on a sound analysis of the business."

CONTROL OF CAPITAL EXPENDITURES

(Cont'd from pg 4)

Actual procedure requirements will vary greatly depending on the type and size of a business, but two basic control elements are essential in any business:

- a) Certain individuals must be designated to approve requests for capital equipment.
- b) Expenditures must be recorded against the budget before they are made and periodical reports must be prepared on budget balances, showing both actual expenditures as well as commitments.

AUTHORIZATION FOR CAPITAL EQUIPMENT EXPENDITURE

A. Approvals

Requests for capital expenditure may be initiated at almost any level of management. From a practical standpoint, however, all requests for office equipment should be reviewed by the Office Manager or Controller, and all requests for machinery by the Plant Engineer. Approvals of such requests should be delegated to successively higher levels of management with definite authorization limits for each level. This again will vary by companies. A typical example is the following:

Expenditure	Approval Required
Under \$100	Department Manager
\$100 - \$1,000	Plant Manager
\$1,000 - \$5,000	Divisional Vice President
\$5,000 - \$25,000	President
Over \$25,000	Board of Directors
All expenditures	Budget Department
All expenditures (over \$500)	Controller or Treasurer

It is necessary to allow for emergency conditions, which will sometimes alter the approval procedure. In time of crisis it may be imperative for a local plant manager to make purchases on short notice to protect the company's investment.

B. Special Forms

It is not necessary in small companies to have special authorization forms for capital equipment. Use of a regular purchase requisition with accompanying story on the advisability of the purchase will suffice.

In large companies, however, it is usually desirable to design a special authorization form with project number. This form should have the following features:

- Description of the project
- Cost estimate (supported by bids and detailed to show invoice cost, freight, installation, etc.)
- Justification of project (detail of annual savings, pay-off period, or other advantages).
- Equipment to be replaced
- Space for required signatures

Larger companies also find it desirable to have a so-called "Supplemental Authorization" form with instructions that additional approvals be obtained on this form as soon as it becomes evident that a project will exceed the original authorization by a given percentage (for example 5% or 10%).

ACCOUNTING CONTROLS AND PROGRESS REPORTS

Capital equipment projects which have the necessary approvals must be charged against the budget at the estimated cost which will later be adjusted

to the actual cost. Unless this is done before the project is started, there is no budget control.

Actual progress reports should be made at least monthly. In cases of heavy construction, it may be advisable to have a special accountant assigned to keep daily records on the cost of a job. Progress reports should be of two kinds:

- 1) A summary report showing management:
 - a) The annual budget by divisions
 - b) Total actual costs on closed projects
 - c) Open commitments
 - d) Budget balances
- 2) Detail on open projects or commitments showing:
 - a) The original estimated cost
 - b) Actual costs to date
 - c) Balance to spend

EQUIPMENT RECORDS

It is of prime importance to have adequate records on existing equipment. Card records, showing date of purchase, original cost, accumulated depreciation, history of repairs, etc. are essential reference material in almost any decision to replace equipment.

THE POST COMPLETION AUDIT OF CAPITAL BUDGETS

By Wm. B. Jolly

Secretary - Treasurer,

Perfection Manufacturing Corporation, Minneapolis, Minn.

When we refer to the post completion audit portion of a capital expenditure program, we are considering the methods employed to determine whether or not a given project has produced the results expected. We believe that a system requiring reports on performance is a most important phase of any capital budgeting program.

I am sure you have heard it said that the follow up on capital expenditures is for the large concern only. This same line of reasoning was used for many years on budgeting in general, and we know that it is not valid thinking; the need is there for both the small and the large business.

A good portion of us in this Budgeting Society are employed by medium sized firms; unlike the one man organization, where the owner knows intimately all the details of his business, our organizations have become complex enough that the management groups cannot have first hand knowledge on the outcome of all capital ventures, and must rely on the accountant, the budget director or the financial officer to keep it informed. This is why there is a real need for a practical application of this controlling procedure. Here is where you can perform a real service for your company, by promoting and setting up a workable audit program.

An interesting thing about follow up programs is that it is one of the most neglected phases of control. Most firms do not have them, and this is true of both large and small businesses. Checking further into this we find a number of reasons given. Uppermost is that post completion audits are costly; the gathering of factual data is time consuming, and often difficult to get; there is a tendency to feel that accomplishment speaks for itself when the project works out well, and a reluctance to bring up the unpleasant facts when it has not.

One of the more important advantages is that those persons responsible for a given project, knowing that it

will be checked, will conduct a more complete study before recommending an appropriation. Even though we realize that no one can predict the future or the profitability of a project with absolute accuracy, management has come to expect that appropriation requests will be based on fairly sound estimates of what the results will be. A sound system of follow up through performance reports will encourage careful study of all factors before recommendation, and reduce the sponsorship of capital projects based on casual study and poorly educated guesses.

Another good reason for a follow up program is the improvement over a period of time in the ability to judge the necessity of or the work of new proposals; and this is equally true of the individual proposing a project, as well as the reviewer.

The audit must be a practical application. It is usually not feasible to check every project, although some companies do try to audit all projects where cost savings were to result. Since post completion audits require extensive information, they are often expensive, and so it is common to find that a dollar value will be set as a minimum below which no study is made. Other companies may only make spot checks and intensify the review where the cost savings was a material factor in influencing the decision to go ahead. Capital expenditure proposals are likely to come up for almost any reason. It is not practical to compute profit performance on projects where additional measurable profits were not intended, such as those designed to improve employee morale, or working conditions, or some other intangible.

But where a saving is expected, or a profit anticipated, these estimates made at the time of the proposal are compared with the actual savings realized. The actual gathering of the performance data may fall into the lap of the very persons who made the initial request, and this may be a temporary stumbling block, particularly if the performance isn't up to expectations; in your larger organizations, the internal audit staff may carry out this function.

Post completion audits on capital expenditures require a lot of detail work, and genuine cooperation between the accounting and the operating departments of the business is essential.

In bringing such a report together, another comparison is often made; the estimated savings are compared with those that would have resulted had all non-controllable conditions remained the same. For example, if the labor saved is a big factor in the savings measurement, savings are shown on the basis of labor rates used in the original estimate, even though these rates may have changed.

The form of presentation is not too important. The usual procedure seems to be to present and compare in the manner in which the proposals were presented. Normally this is not an attempt to question the validity of the proposal figures for that is a job for management, but rather to present the facts of the matter in comparative form.

Another valuable measurement device is the operational report as opposed to the financial comparison. Those individuals in your organization who are immediately concerned with the details of day to day machine operation will tend to emphasize the operational performance tests. If the machine is operating properly, and according to the initial estimates that influenced the recommendation for purchase, it is quite likely that the profit results from the machine or installation will come up to those expected. Of course, these tests, as in the financial type of testing, must be tempered by factors over which the operator may have no control, such as the

GENERAL FOODS

(Cont'd from pg. 6)

before it begins. When we make up this revised quarterly profit plan we look ahead to see what effect our latest planning will have on the year's result.

The final quarterly profit plan embodies the promises and expectations of the General Manager, the Product Managers, the Purchasing Organization, the Advertising Agency, the Production Manager, etc. to their supervisors and to General Foods.

They must be in harmony with one another and they must add up to a profit acceptable to top management.

The quarterly and annual profit plans of all divisions eventually wind up in the Budget and Analysis group. This group consolidates them into a corporate plan, analyses them and writes interpretive comments for the Administrative Staff.

The Administrative Staff each quarter spends about two days reviewing the Division Profit Plans and the Corporate summary. Changes are sometimes made.

When the Administrative Staff approves a plan the General Manager has a green light to go ahead and is held accountable for variations.

In conclusion let me state these three principals of Forecasting and Profit Planning.

First They should be tailored to fit the needs of the business.

Second They should be based on good organization with clear cut and distinctly defined lines of responsibility and authority.

Third Each executive, department head and supervisor should prepare the forecast and plan for the operation he is responsible for. The top forecast or plan should represent the best judgment of all members of management as to what can be accomplished.

Forecasting and Budgeting based on these principals give direction to a business. Just as important, their intelligent preparation and application give top management a chance to really steer the business and to take corrective action to avoid the pitfalls which lie before all of us.

sales level and the product mix.

Timing of your audit is also important. Many firms will make comparison studies six months and one year after completion; however many projects need to be reviewed at intervals of two, five or ten years. Remember that since the capital expenditure is made for a period exceeding one year, the task of checking performance should not be limited to the first year of operation.

In conclusion, there are a few points I want to reiterate. There is no ready made system for handling post-completion audits. Every organization has its own special problems, and its own set of people. Your system is going to have to fit the needs of your company and must be sold to all levels of personnel in your organization. Don't try for perfection at the beginning, but get the program started, and refine it as you go along. Reasonable approximations on profit and performance measurement are often as useful as perfect statistical data, and usually much easier to obtain. Although we stated it before, we wish to say again, that the post completion audit is absolutely essential to any system of control over capital expenditures. Without it, management cannot intelligently plan and control capital investment.

FINANCIAL ANALYSIS IN JOHNS-MANVILLE

(Cont'd from pg. 8)

pendent production due to strikes, fires, or other hazards.

Similarly, is a large machine better than two or more smaller machines? If the large machine is operated at capacity, it will probably produce at a lower unit cost than two machines half its size. But if demand drops off, the advantage of size will diminish. Operating one small machine at capacity may cost less than operating the large machine half of the time.

Again, when is a facility obsolete? A new, improved machine is put on the market when the one we have still is far from worn out. Should we replace, or should we defer that expenditure for some years and continue to produce at a higher cost?

Such questions are answered by financial analysis.

Now let us turn to the income statement, to "cost of sales", and consider some problems of production.

Looking at raw material costs, we can ask: can raw material costs be lowered through material substitutions without impairing the quality of the product, or without raising the number of rejects or reducing production speeds, to where total costs are increased? Or, conversely, should the quality, and cost, of raw materials be raised, in order to reduce rejects, or increase production speeds, so that total costs are lower?

And, looking at labor costs, should an increase in production demands be met by adding a shift, or by running overtime, or by some combination of the two? Adding a shift usually entails the added cost of hiring men, and of using an inexperienced crew. On the other hand, if you run overtime, you pay an increased hourly rate. And if there is a lot of overtime, your crews become fatigued, and their productivity falls.

Again, how costly is labor turnover, and what actions would be worth-while to reduce it? Some companies have found a guaranteed annual wage profitable. If your business is highly seasonal, and if it is unprofitable to stock products when demand is slack, consideration might be given to adding new products that have seasonal variations complementary to those of your present products.

Taking into account intrinsic cost differences and freight rates, how should production be allocated among different plants? Perhaps it is better to ship longer distances from plants with lower intrinsic cost. Of course, if costs at the high-cost plant are not intrinsically higher, then attention should be directed toward reducing those costs rather than to the diversion of shipments to a lower-cost plant.

And while we are seeking answers to these questions, we are, or should be, continuously seeking standards of comparison, in the way that I mentioned earlier, to see that we are not doing something at a higher cost than we should be doing it.

For example, Johns-Manville makes an Asbestos-cement pipe, that we call Transite pipe, at four locations in the United States—in New Jersey, Illinois, Louisiana, and California—and in one plant in Canada. Now among these plants there are, of course, certain intrinsic differences in cost, such as prices of materials, labor rates, and freight. After reconciling these differences in the assortment of sizes, shapes, and other characteristics of pipe that affect cost, we can compare the costs of materials, labor, and other items for each ton of pipe produced. We would draw the conclusion that plants that had costs higher than the low-cost plant

ABOUT OUR AUTHORS

(Cont'd from pg. 2)

present position, Assistant Division Manager, in 1948. His work is primarily concerned with budgeting control and planning, and related special assignments. The work also involves a good deal of travel, and he describes this article as random notes jotted down in a strange hotel.

N. J. Curran, Jr. is Director of "Budgets & Analysis of General Foods Corporation." Previous to this, Mr. Curran was assistant controller of General Foods' Maxwell House Division. Mr. Curran joined General Foods in 1946 as senior internal auditor in the Corporate Auditing Division. In 1949, he was transferred to General Foods' Maxwell House Division as chief accountant. He was first promoted to accounting manager of the division, later named assistant controller. From 1941 to 1943, Mr. Curran was associated with the Sperry Gyroscope Company, New York. Prior to that, he was with the General Electric Company at Schenectady, New York. He graduated from Fordham University in 1940. He served in the Navy from 1943 to 1946, and was a Lieutenant, j.g. at the time of his release. Mr. Curran is a member of the American Management Association, the National Association of Cost Accountants and the National Society for Business Budgeting.

might well provide a good area for cost reduction.

There are many expenditures outside of plants that demand attention.

How much of the selling function should we embrace? Should we sell to distributors, to dealers, or directly to consumers? Perhaps the answer will be different for different geographical areas.

Should sales offices be leased or owned? Is the number of sales offices optimum? Are they well located?

Is the number of salesmen optimum? Should salesmen specialize on products sold when there are many different kinds of products?

So far, I have been speaking of expenditures. The analyst is also concerned with income.

He might suggest new products that would complement the line.

He would ask himself: is the price-volume relationship of present products optimum? If prices were to be reduced, would demand be sufficiently flexible so that volume would be increased to the point where earnings would be increased?

He would ask: are discounts and returns and allowances excessive?

Well, I have tried here only to suggest the scope of the analyst. The number of questions that an analyst might ask, and try to answer, are without limit.

In Johns-Manville, operating people have been turning more and more to the financial analyst for aid in making decisions. In place of judgment, they are coming to prefer, more and more, sound reasoning applied to facts.